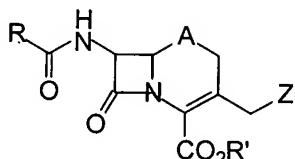


IN THE CLAIMS

Please enter claims 1-3, 5, 11, and 12 as rewritten below:

A

1. (Currently amended) A compound having the general formula:



(I)

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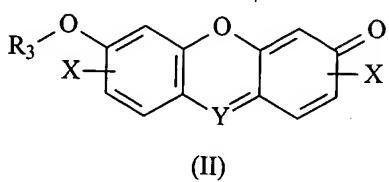
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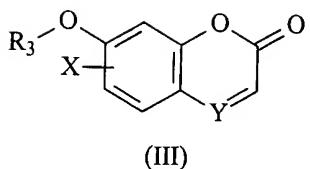
in which R is a benzyl, 2-thienylmethyl, or cyanomethyl group; R' is selected from the group consisting of H, physiologically acceptable salts or metal, ester groups, ammonium cations, --CHR₂OCO(CH₂)_nCH₃, --CHR₂OCOC(CH₃)₃, in which R₂ is selected from the group consisting of H and lower alkyl, acylthiomethyl, acyloxy-alpha-benzyl, deltabutyrolactonyl, methoxycarbonyloxymethyl, phenyl, methylsulphinylmethyl, β-morpholinoethyl, dialkylaminoethyl, and dialkylaminocarbonyloxymethyl[, in which R₂ is selected from the group consisting of H and lower alkyl]; A is selected from the group consisting of S, O, SO, SO₂ and CH₂; and Z is a donor fluorescent moiety.

2. (Currently amended) The compound of claim 1, wherein the donor fluorescent moiety is selected from the group consisting of:

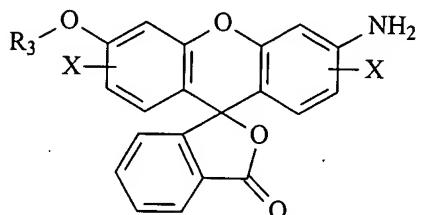
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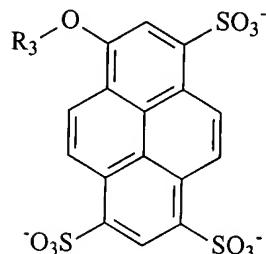
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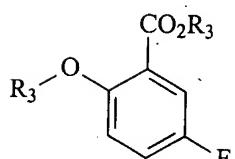
(III)



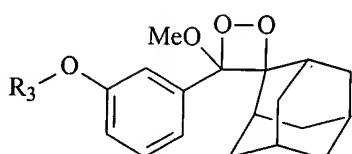
(IV)



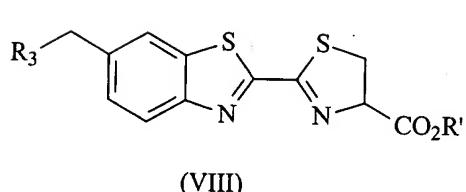
(V)



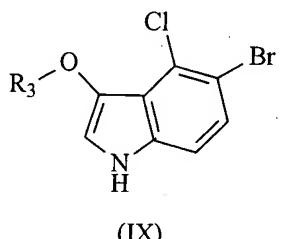
(VI)



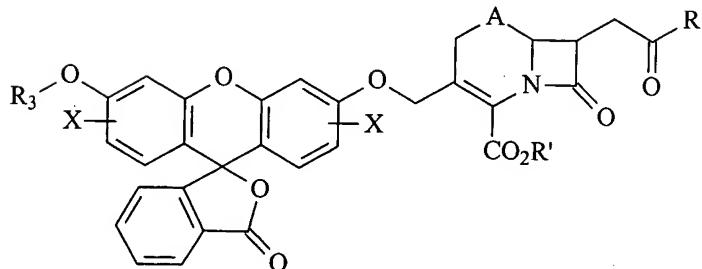
(VII)



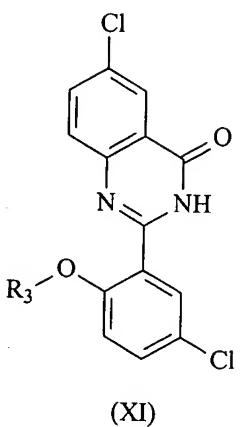
(VIII)



(IX)



(X)

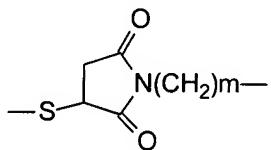


(XI)

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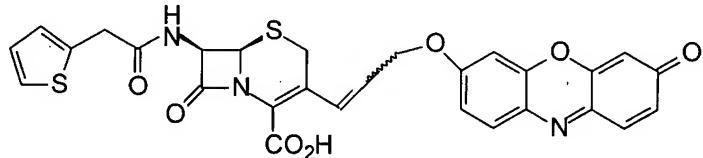
R₃ is a linker for the fluorescent donor, X is H or lower alkyl, and Y is N or O.

3. (Currently amended) The compound of claim 2, wherein the linker is selected from the group consisting of a direct bond to a heteroatom in the fluorescent moiety, --O(CH₂)_n--, --S(CH₂)_n--, --NR₂(CH₂)_n--, --N⁺R₂(CH₂)_n, --OCO NR₂(CH₂)_n--, --O₂C(CH₂)_n--, --SCSNR₂(CH₂)_n--, --SCSO(CH₂)_n--, --S(CH₂)_nCONR₂(CH₂)_m, --S(CH₂)_nNR₂CO(CH₂)_m, and



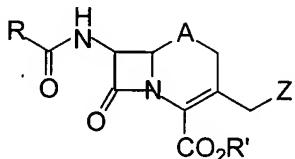
in which R₂[, n and m are] is as previously defined; and m and n are each independently [is an] integers from 0 to 4.

4. (Original) The compound of claim 1, wherein the compound has the structure:



5. (Currently amended) A method for detecting the presence of β-lactamase activity in a sample, comprising:

contacting the sample with at least one compound of general formula I:



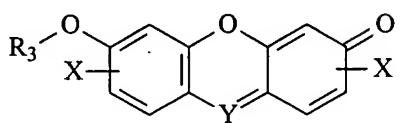
(I)

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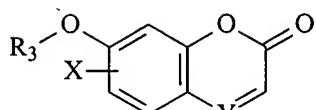
in which R is a benzyl, 2-thienylmethyl, or cyanomethyl group, or a quencher; R' is selected from the group consisting of H, physiologically acceptable salts or metal, ester groups, ammonium cations, --CHR₂OCO(CH₂)_nCH₃, --CHR₂OCOC(CH₃)₃, in which R₂ is selected from the group consisting of H and lower alkyl, acylthiomethyl, acyloxy-alpha-benzyl, deltabutyrolactonyl, methoxycarbonyloxymethyl, phenyl, methylsulphinylmethyl, β-morpholinoethyl, dialkylaminoethyl, and dialkylaminocarbonyloxymethyl[, in which R₂ is selected from the group consisting of H and lower alkyl]; A is selected from the group consisting of S, O, SO, SO₂ and CH₂; and Z is a donor fluorescent moiety.

6. (Original) The method of claim 5, wherein said sample has a β-lactamase reporter gene.
7. (Original) The method of claim 6, wherein said β-lactamase reporter gene is in a mammalian cell.
8. (Original) The method of claim 5, wherein samples having β-lactamase activity are separated from samples having no β-lactamase activity by fluorescent-activated cell sorting.
9. (Original) The method of claim 5, wherein the β-lactamase activity results from a β-lactamase enzyme that was prepared by mutagenesis of another β-lactamase enzyme.
10. (Original) The method of claim 5, wherein said compound is a membrane permeant derivative.
11. (Currently amended) The method of claim 5, wherein the donor fluorescent moiety is selected from the group consisting of:

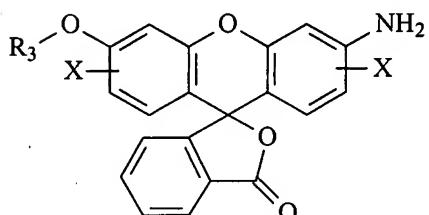
Cited
A)



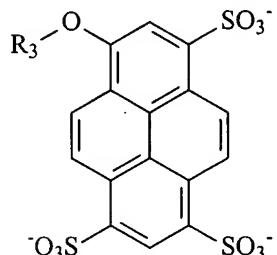
(II)



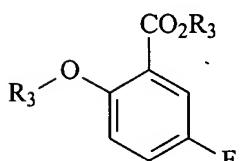
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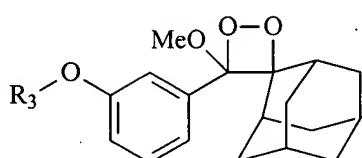
(IV)



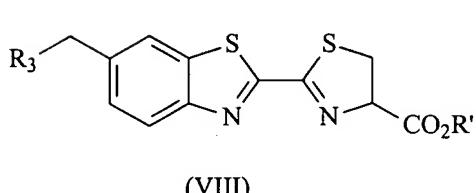
(V)



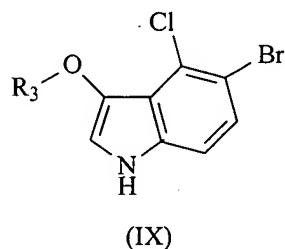
(VI)



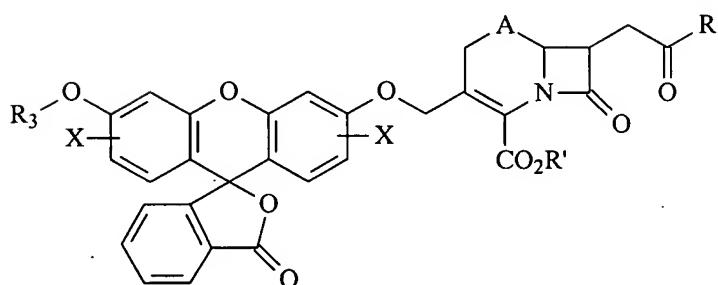
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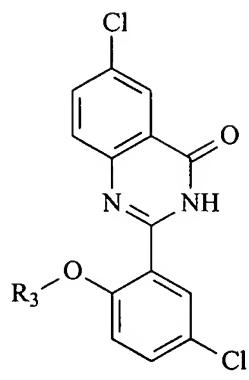
(VIII)



(IX)



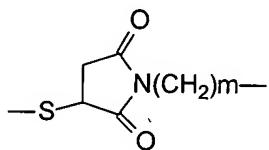
(X)



(XI)

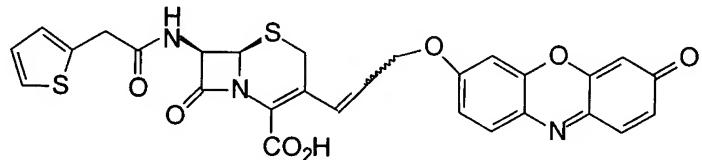
and
Al
R₃ is a linker for the fluorescent donor, X is H or lower alkyl, and Y is N or O.

12. (Currently amended) The method of claim 11, wherein the linker is selected from the group consisting of a direct bond to a heteroatom in the fluorescent moiety, --O(CH₂)_n--, --S(CH₂)_n--, --NR₂(CH₂)_n--, --N⁺R₂(CH₂)_n, --OCONR₂(CH₂)_n--, --O₂C(CH₂)_n--, --SCSNR₂(CH₂)_n--, --SCSO(CH₂)_n--, --S(CH₂)_nCONR₂(CH₂)_m, --S(CH₂)_nNR₂CO(CH₂)_m, and



in which R₂[, n and m are] is as previously defined; and m and n are each independently [is an] integers from 0 to 4.

13. (Original) The method of claim 5, wherein the compound has the structure:



14. (Original) A method for determining whether a compound of claim 1 is a substrate for a β-lactamase enzyme, comprising: contacting said compound with a sample containing said β-lactamase enzyme; exciting at the wavelength for the said compound when cleaved; and measuring fluorescence.

15. (Original) The method of claim 14, wherein said compound is a membrane permeant derivative.

Applicant: Tsien and Rao
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Filed: January 11, 2003
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Attorney Docket No.: REGEN1510-1

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16. (Original) The method of claim 14, wherein said β -lactamase enzyme has been prepared by mutagenesis of another β -lactamase enzyme.